OFFSHORE APPLICATIONS

Offshore Applications

Ground-to-Air Communication, Maritime Safety GMDSS, AIS
Phontech PA and Internal Communication, Strobe Lights

JOTRON

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Offshore Applications

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Ground to Air Communication

JOTRON supplies ground to air communication solutions for all ground to air communication – VHF and UHF / AM (oilrigs - helicopters, ship – helicopter, airports – airplanes). For use onboard ships or oilrigs without need of remote control of the radio, the following TR-710 would be recommended. For configurations were the radio needs to be controlled from another room/location, we recommend the TR-7510 VHF/AM base-station with all remote control facilities.

VHF/AM Transceiver - Multi Use Air band - TR-710 (10W)

This VHF/AM transceiver is delivered either as desktop, manpack or mobile radio

Features:

- 760 Channels and 10W output power
- Channel spacing 25/8.33 kHz in the band 117-137MHz
- Synthesizer, microprocessor controlled
- Large, clear and dazzle-free graphical display with backlight
- Illuminated keyboard with adjustable intensity
- Large powerful loudspeaker.
- Jog-wheel control giving the user full control over volume, squelch, channels, frequency and settings in menus
- Excellent large signal capabilities, giving very good co-location capabilities (exceeds specifications)
- Adjustable output power, 1-10 Watt (40 watt PEP), in five steps
- Built In Test Equipment (BITE) monitors the TR-710 and gives an alarm if a fault is detected The BITE also decreases time spent on finding faults
- Can be equipped with headset. Headset can be used together with internal loudspeaker
- Multifunction connector with 600 Ohm line in and out, squelch relay, key relay, key in, monitor output, gas alarm and external speaker

The TR-710 complies with ETSI specifications:
EN 300 676 technical characteristics
EN 301489 EMC standard

TR-710 MD Marine Desktop

Supplied with microphone, AC adaptor, battery cover, antenna adaptor and user manual.

TR-710 MP Man-pack

Supplied with carrying bag, microphone, battery w/charger, antenna and user manual.
A solid carrying bag with pockets for a spare battery, battery charger and microphone. It is easy to change the battery A user can program up to 63 channels with corresponding names by using serial cable and PC software. With the TR-710 in man-pack mode, one can restrict access only to the programmed cannels.

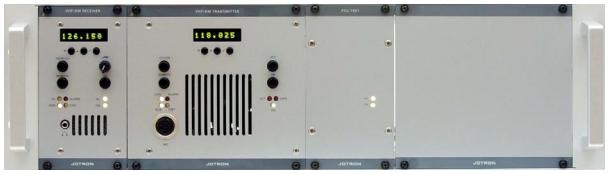
VHF/AM transceiver – TR-7510/25/50

TR-7510 – VHF/AM Transceiver (10W)

Compact Modular Design: 2 Transmitters with power supplies fit in one 3U 19" sub rack or 6 receivers fit in one 3U 19" sub rack. Transmitters have low inter modulation, broadband noise, spurious and harmonics and excellent large signal capabilities, giving excellent collocation capabilities. Frequency coverage up to 156Mhz available. Proven high reliability design.
Up to 4 carriers offset according with ICAO annex 10. (optional) Built in antenna relay for easy main/standby configuration. Both operational parameters and diagnostics available from remote interface Audio Remote control and operators remote control or optionally on request JOTRON RACS surveillance and control system (PC-software)

This is a multi/single channel VHF/AM transceiver, mounted in a 19'' sub-rack or in a desktop cabinet. The unit is 3U high and has 99 Ch fast recall store. The channel spacing is standard 8.33 kHz in the band 117.975-137 MHz. The radio has RS-485 serial interface and full digital control and diagnostics. It operates from AC mains with auto fail to 24VDC. The output power is dependent on version 10/25 or 50W.

TR-7510/25/50 complies with ETSI specifications:
EN 300 676 technical characteristics
EN 301489 EMC standard



Peiker TM 110 Handheld microphone

CXL3-1LW VHF/AM antenna

RG213 Low Loss antenna feeder cable w/male and female connectors mounted

UHF/AM Radios Series 3000 (base stations)

UHF/AM Digital Multimode Transceiver

Multi channel UHF/AM transceiver in a 3U -19" sub-rack. 25/12.5 kHz channel spacing in the band 225-400 MHz. Up to 4 carriers offset. RS-232 and Ethernet/LAN interface for remote control. Includes 60 to 15pin adapter for easy connection to remote equipment.
Full digital control and diagnostics. 115/230VAC mains with auto fallback to 27VDC.
NB! The Rack controller needs to be added separately.
You can control the radio directly from a PC without the Rack-controller via the below optional PC software. One rack controller can control many radios.

Remote Control Unit for VHF/AM 7000 and UHF/AM 3000 series

1) When operator is to control the audio of the radio from another room/location than where the radio is physically placed we recommend the use of the below ARC.

ARC – MK II Audio Remote Control (for 7000 and 3000 series)

The ARC is an audio remote control that uses 4wire E&M format to transfer RX audio, TX audio, PTT and Squelch. The ARC has intercom-possibility: Several operators of the same radio can connect their ARC units in cascade as one master and several slave units. Internal loudspeaker with volume control and connections for headphone and microphone. It operates from 220V AC with auto fail to 24V DC.

2) When the operator also needs to control the frequency from the same remote position, we recommend to use the below ORC.

ORC – Operators Remote Control (for 7000 series only)

The unit has a 19" sub rack format and is 3U high. The ORC has RS-232/RS-485 interface. The operator can select operating frequency directly from radio's channel store, and there is a read-out of frequency information. The power is supplied from ARC or Radio modules.

3) When the distance from the radio to the ARC and ORC is more than 500 meters, we recommend the use of the below Audio and PTT Modem.

Audio and PTT Long Distance Modem

For long distance remote control of audio, PTT and control signals through a two/four wire leased telephone line.

Audio PTT and DATA Long Distance Modem

For data and audio transmission

Desktop box for ARC + ORC or separate ARC

Desktop Cabinet for 19'' 3U installation

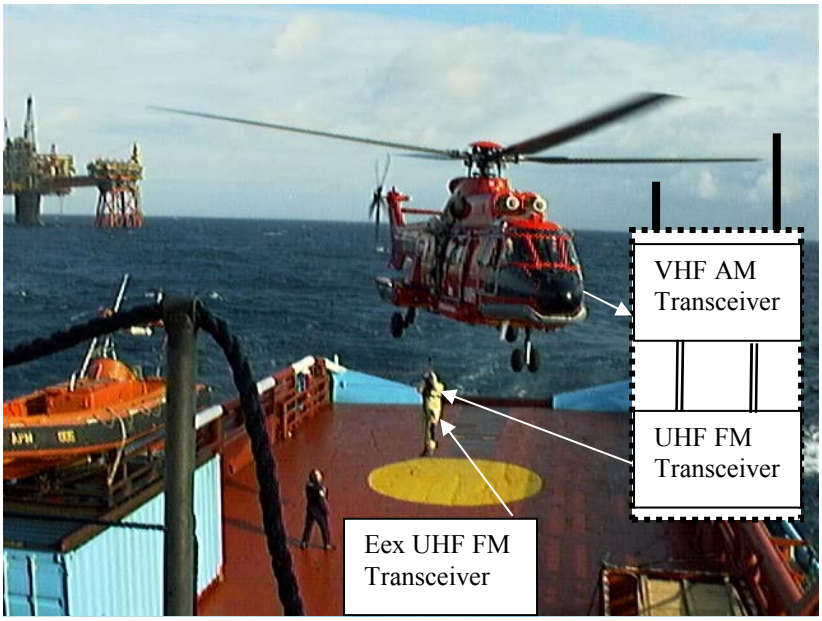
Jotron supply different types of cabinets, antennas, antenna-filters, multi couplers, combiners, splitters and power amplifiers for both the VHF and the UHF equipment. We tailor a system to your needs which will fully comply to your critical co-location and frequency allocations.

Eex Communication Combined with Ground to Air Communication

Jotron can deliver a UHF/FM to VHF/AM repeater to solve the communication between aircrafts and Eex platform.

The repeater is mounted into an Eex safe shelter or outside the Eex area.

The VHF/AM transceiver and the UHF/FM transceiver can be separately remote controlled using Jotron remote control units.



BS 2000 Base Station and Repeater

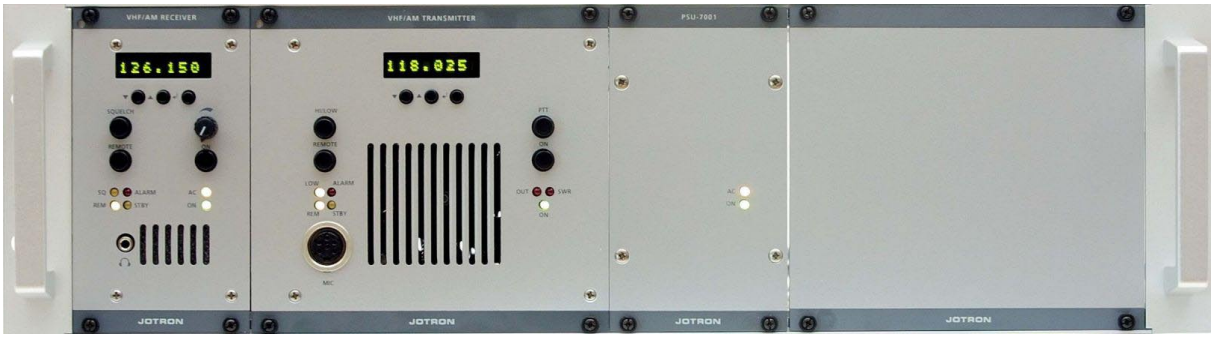
The BS2000 series of base stations and repeaters are designed for continuous operation under harsh climatic conditions and are available for all PMR frequency bands. The BS2000 is available for remote control via an AC telephone line.

- Voice and data
- 25W output power
- Continuous operation
- Weatherproof cabinet for wall mounting
- 19'' cabinet for rack mounting
- Available in numerous configurations with main and standby transceivers with automatic changeover
- Rugged construction
- Simplex, Semi-duplex and Duplex

Examples of Configurations 7000 series:

The 7000 series VHF/AM radio system includes separate Receiver (RX) and Transmitter (TX) modules (Fig. 1). Each module has facilities for being connected to other modules as a part of a main/standby chain, and as a transceiver configuration.

TR-7550 / TR-7525 / TR-7510



Receiver RA-7202 | Transmitter TA-7450/25/10 | PSU

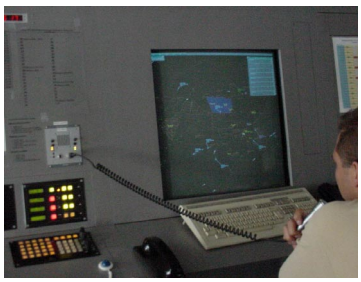
Fig. 1

The radio units have a built-in coaxial relay for antenna switching, an Alarm output and a Select input for automatic and/or manual main/standby selection.
In addition the transmitters have a Key/Mute output used to mute associated receivers during transmitting periods.

The antenna is connected to the transmitters antenna output and routed via a built-in coaxial relay to the transmitters antenna output.
From there a coaxial cable connect the antenna to the receivers antenna input.
When the transmitter is not keyed the coaxial relay will switch the antenna to the TX antenna output and from there to the connected receiver.
When a key signal is applied to the transmitter the coaxial relay will switch the antenna to the transmitter output. The same key signal is used to mute the receiver during transmission.
The audio line is connected in parallel to the transmitter and receiver.

Single Radio Setup, general:

The radio modules can be controlled directly from the front panel and via a range of remote equipment and accessories.



Remote Audio and PTT only:
The Operator at the remote site(s) is able to monitor traffic, and to communicate on the current frequency of the local transceiver, through the Audio Remote Control unit (ARC). A red LED indicator on the ARC will alert the operator if there is an alarm on the local radio unit. (Fig. 2).
It is possible to connect more than one ARC to the same radio. The number of wires can be reduced to two wires, but in this case the ARC will loose functionality (the sq, alarm indicator will not be available).

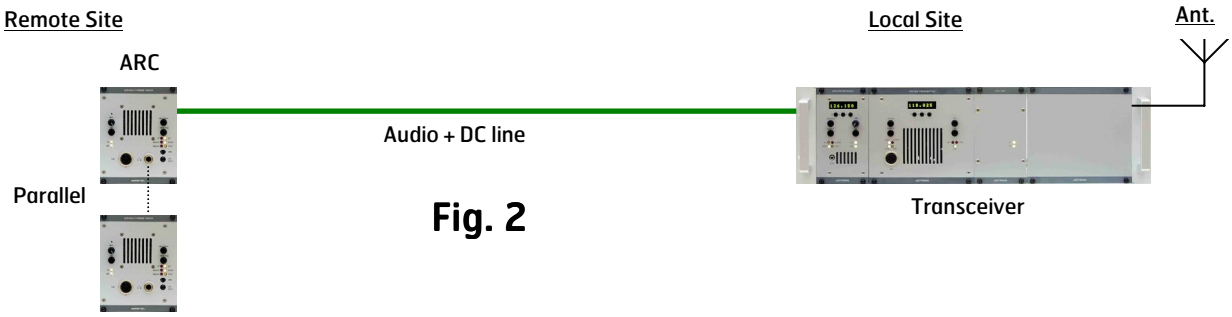


Fig. 2

The maximum distance between ARC and radio unit is approximately 2 km, provided a high quality screened cable is used.

To connect a pair of radio units as main/standby, the alarm output from main unit is connected to the select input of the standby unit. Also, the initial main unit must be told that it is the main unit by accessing its configuration programme and set its operation to Main. The standby radio unit is automatically selected if there is an alarm on the main unit. The switch is a built-in coaxial relay. Selection can also be done manually from the ARC (Fig. 3).

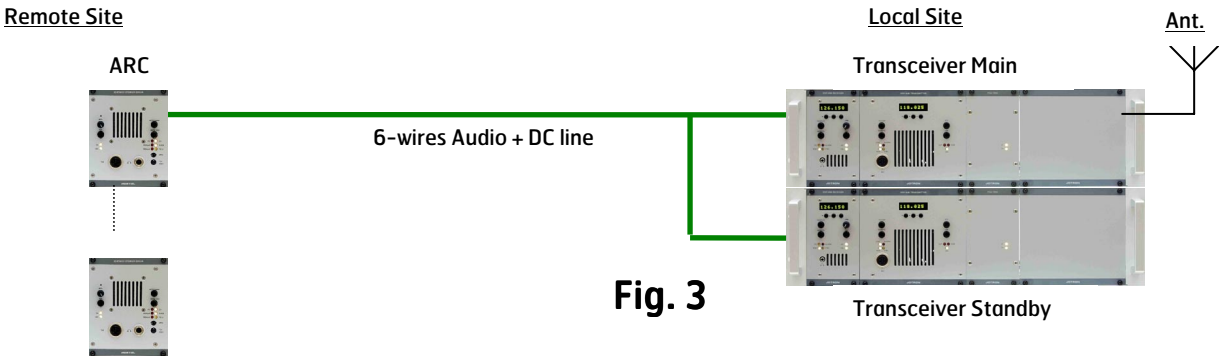


Fig. 3

Long Range Audio and PTT

Communication via leased lines is made possible by use of the Audio/PTT modem, APM (Fig. 4). One APM unit is able to access two transceivers (i.e. Main + Standby unit). In the below example with the APM modem, the APM uses inband and FSK signalling and demands uncom-pressed audio line.

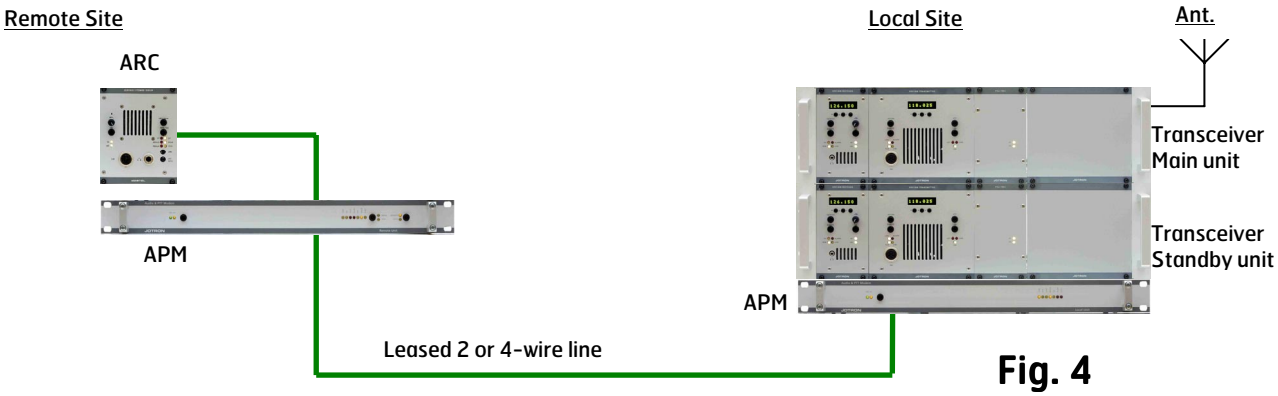


Fig. 4

The Audio/PTT modem uses in-band tones for transfer of Squelch and PTT. Alarm (Main and Standby unit) and Main/Standby selection uses FSK data. The 2 or 4 wires must be ordered specific as this is not standard.

Limited Remote Access to Radio Control:

Adding an Operators Remote Control unit (ORC) to the set-up shown in Fig. 3, enables the operator to toggle between the frequencies, which have been programmed into the radios. (Fig. 5) With the use of this configuration it is recommended to use an ADAM-4510/4510S repeater. This unit simply amplifies, or boosts, existing RS-422/485 signals to enable them to covers longer distances. It extends the communication distance by 4000 ft (1200 m) or increases the maximum number of connected nodes by 32. In addition the 4510S version provides galvanic isolation between input and output so that any difference in GND potential between each end of the RS485 line will be compensated for.

By the below example you may choose if you would like common audio – or separate RX/TX audio.

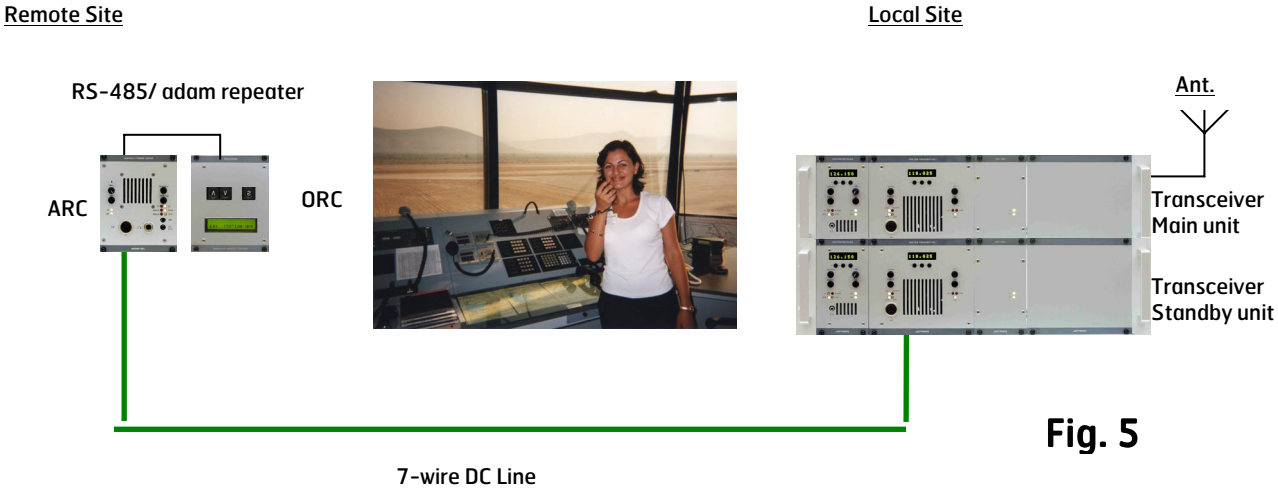


Fig. 5

GMDSS Equipment for Offshore

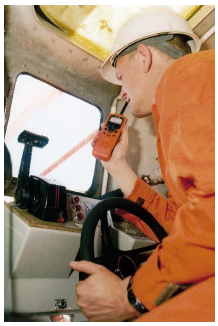
EPIRB – Tron 40S / Tron 40GPS

- GMDSS 121,5/406 MHz EPIRB
- Manual or flat free brackets
- Heated bracket available
- Serviceable and programmable "on board"
- Service and exchange beacons available
- Tested to meet future requirements for 5 years maintenance Ref IMO/MCS 1039
- 5 years battery life time
- MED / FCC approved
- NATO Stock No. 5895-25-148-0381

Radar Transponder – Tron SART

- For use in lifeboats, life rafts, as well as ships and oilrigs
- Designed for use in search and rescue operations
- Gives the exact location of the distressed indicated on the Radar x-band display of any nearby ship, SAR vessels and aircrafts
- GMDSS 9GHz Search and Rescue Transponder
- Serviceable "On-Board"
- High gain antenna
- Coach roof mounting kit and telescopic pole
- Exchange units available
- MED / FCC Approved
- NATO Stock No. 5895-25-145-1727

Handheld VHF Radio – Tron TR20 GMDSS



- Ease of operation with user friendly menu
- Waterproof to IP67 ETS 300-225
- 21 Channels standard – additional 21 channels optional
- Delivered with rapid trickle 2 slot charger
- Lifetime of NiMH batteries 15 hours (reverse polarity protected and fused)
- 2 Watts RF Output
- Dual / Triple watch function
- Provision for use of remote antenna
- Weight 330 grams including primary lithium battery
- Full range of accessories
- MED /FCC approved
- NATO Stock No. 5820-25-151-1960

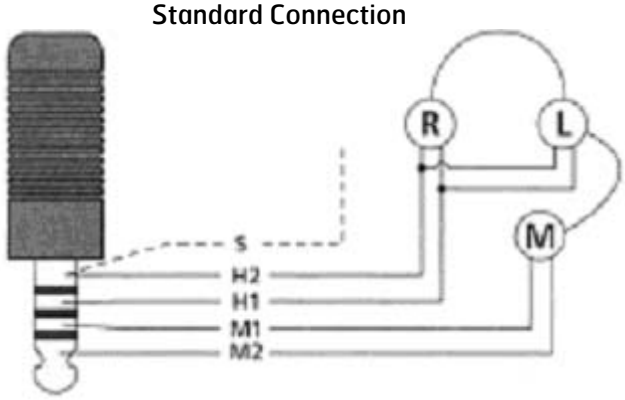
VHF Handheld Maritime Radio Tron TR20 PLUS

- > VHF Radio w/scanning
- > Can be connected to numerous types of headsets according to customers specifications
- > Delivered with rapid trickle charger w/room for 2 units as for the other handheld radios
- > Professional 56 channel
- > Adjustable RF power up to 5W
- > EN 301 178, R€TTE approved
- > Facility socket for external microphone or numerous headsets

Headset combinations

There is a possibility to connect any requested headset of Peltor to either the ARC or the TR-7510 /TR-710 via a special designed PTT cable. There are also different headset combinations for handheld radios available.

Standard Connection



- Special headset for noise environment
- Standard headset, headset with ambient sound and EX Headset
- Headband, helmet clips or neckband-types
- Dynamic, noise cancelling microphone

AIS – Automatic Identification System

Tron UAIS TR-2500

Universal automatic identification system (Ship / Oilrig installation)

Tron UAIS TR-2500 is a VHF transponder system continuously exchanging own ship information with information from all UAIS equipped ships within VHF range. Broadcasting identification, position, course and speed over ground as well as static and voyage related information to vessels and shore base stations.
Supplied with a junction box in order to ease sensor interfacing.

NB! Included is the JOTRON AIS viewer with worldwide maps which facilitates the supervision of other ships. This is PC software for graphical display of AIS communication. Can also be distributed to other onboard PCs when connected in a network.

Keywords: Ease of operation, flexible solutions for bridge integration, compatibility for system integration, quick and easy installation.

Users:

- SOLAS vessels
- Vessels / Oilrigs requiring to be seen
- Vessels / Oilrigs requiring traffic survey
- Coast Guard
- Navy

Tron AIS TR-2600

Automatic identification system Shore Station Systems

Tron AIS TR-2600 is a Shore Station Transponder designed to meet or exceed current specifications from IMO, IEEE and IALA. The TR-2600 can operate as a stand-alone unit, or together with a standby unit in a hot standby configuration. If configured, the standby unit will automatically continue operation if the main unit fails, or is disabled for maintenance purposes.

Users:

- VTS applications
- Coastal surveillance
- Port and harbour surveillance
- Offshore installations

RA-2500 AIS Receiver

A powerful tool for planning your day and monitoring of ships movements in your port or bay. Range of monitoring is limited only by the VHF range. Receiving of information only.

Users:

- Non-SOLAS vessels
- Customs
- Freight forwarders
- Port authorities
- Port administration
- Service providers
- Ships agents
- Ship chandlers
- Ship inspectors
- Ship surveyors
- Ship-owners
- Pilots
- Tugs

Phontech Internal Communication Systems

Public Address and Alarm System – MPA 1600 - NEW

The MPA 1600 system is a marine and offshore Public Address System especially designed to meet the requirements for PA/GA and entertainment distribution onboard ships and mobile offshore units. The system is in conformity to SOLAS, IMO and IEC regulations. Based on modular design and flexible configuration, the system covers a wide range of installations complexities from small single loop to fully duplicated systems utilizing total redundancy (Fig. 6).

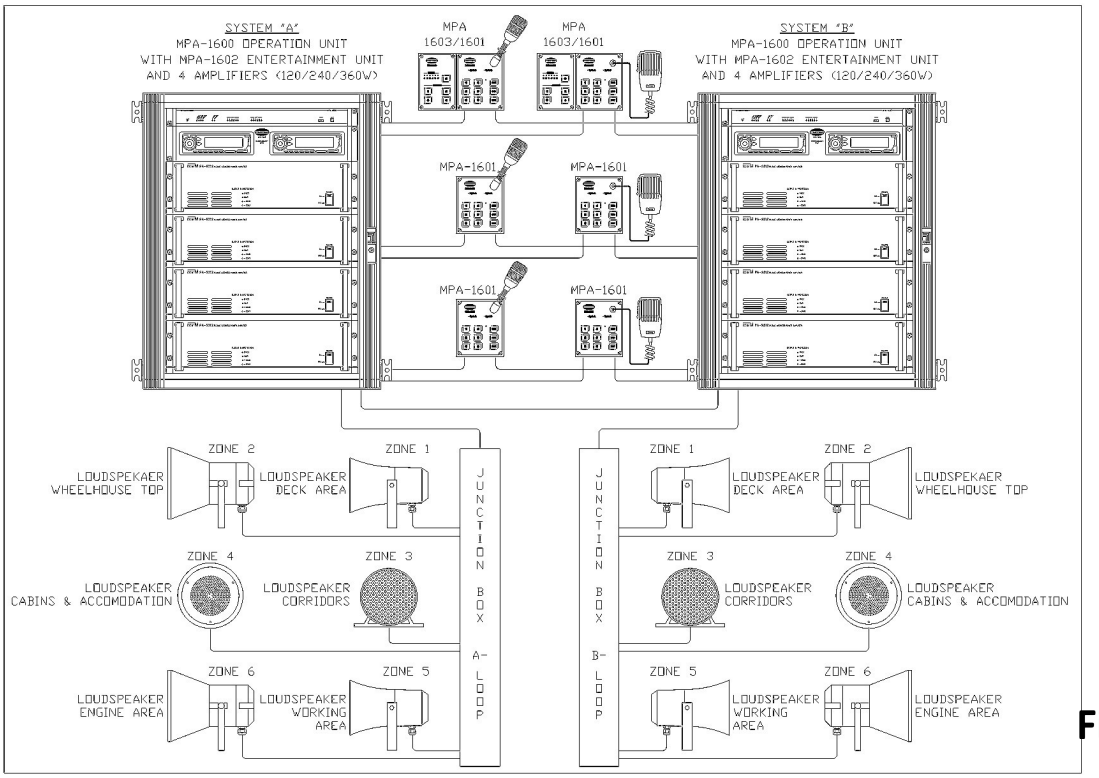


Fig. 6

System features:

- > Modular design
- > Flexible system configuration
- > Built-in loudspeaker, to monitor activity on zones
- > Up to 6 zones, selectable in any configuration
- > Up to 6 MPA 1601 control units connected
- > Up to 2 emergency microphones connected
- > External paging facility (from DICS/PABX etc.)
- > Prepared for A/B dual loop system, with alarm synchronisation
- > Interfaces for manual and/or automatic alarms
- > 2 entertainment sources, with free zone selection
- > 7 audio outputs, with unlimited amplifier expansion
- > Output for activation of external GA system
- > Synchronisation of external GA tones
- > Up to 6 MPA 1603 Alarm Panels, with up to 4 different alarms
- > Compact - size 19*, 1U, weight only 3 kg
- > Low power consumption

Control Unit MPA 1601

MPA 1601

Features:

- 6 Zone-selection keys
- PTT, General Call, and Dimmer keys with integrated LED indicators
- Status-Led for system A and system B
- Dimmable Backlight and indication Leds
- Local Mute Relays

Alarm Unit MPA 1603

MPA 1603

Features:

- 4 configurable Alarm keys, with integrated LED indicators
- Cancel key
- 6 leds indicating alarm status in each zone

Power Amplifier AMP 1670

AMP 1670

Features:

- High performance, unique design for all demanding PA/GA applications.
- Power Output: 400 Watts RMS into 100 Volt line
- Two balanced line level inputs, normal and priority
- Operates from a 48VDC power supply
- Max power consumption only 480W at rated power output
- Compact - size 19*, 1U high, weight only 6.5kg

Other Phontech Communications Systems:

- Intercom Systems
  - DICS 6100 integrated communication system is a digital communication system meeting all aspects of internal and external communication onboard ships. Based on the latest technology its flexible configuration is a cost effective solution. For Intercom, Telephone, Public Address, Alarm, Loud-hailing and Entertainment
  - Command intercom systems: CIS 3000
- Amplified Batteryless telephone systems BTS - 4000
- Small public address system – SPA 1500
- Sound reception system – SR 8200
- Marine antenna system – ARGO A1
- Wireless Paging System - 27.300Hz - WP-900 HF - developed to increase the accessibility and security of the crew who frequently moves at work. WP 900 can be fully integrated with Phontech Communication systems to increase the efficiency of the crew operation

Personal Emergency Strobe Lights

AQ-4 Multi Purpose Strobe Light

A high quality multi purpose marking and distress light designed for the marine, emergency services, military and leisure sectors.

Typical applications:

- > Diving, as location aid
- > Fire fighting, as location aid
- > Life Jacket Safety light
- > Vessel and vehicle marking
- > Personnel marking and signalling light
- > Target marking

Features:
Light system: Xenon strobe / IR (xenon with filter)
Flash rate: 50 flash per minute
Waterproof down to 500 meters
Endurance continuous operation: 12 hours
Lens colours: Clear, blue, red, amber, green, infrared
Housing colours: Yellow, military green

AQ-5 Multi Purpose Strobe Light

Typical applications:

- > Personal marker light for survival suits and lifejackets for crew, to facilitate overboard searches in emergency situations
- > As a combined torch and distress light in life boats and rafts
- > As a personal marker light for firemen
- > As a marker or hazard warning light for security forces

Features:
Light system: Xenon Strobe / High intensity white LED
Waterproofing: Down to 30 meters
Endurance continuous operation: 12 hours strobe/ 60 hours as torch
Flash rate per minute: 50

Marking flashers and lifeboat lights

For marking e.g. anchor chains or moorings, oil cables and offshore installations

Marking Flasher MF- 1114 LED

Waterproof down to 500 m
Endurance continuous operation: More 10.000 hours at 0°C
Fixing: floater
Flash rate: 12 flash per minute
Weight incl. floater : 20kgs

Lifeboat light Tron 1127

Position light and interior light for lifeboats and rescue boats
Accepted at free fall rescue boats from 30 height
Steady halogen powered light
Water-proofing: IP68
Light system: Halogen bulb
Approvals: MED-B-2291 and MED-D-479
Light intensity: More than 4.3 cd

For further information, contact: sales@jotron.com

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